

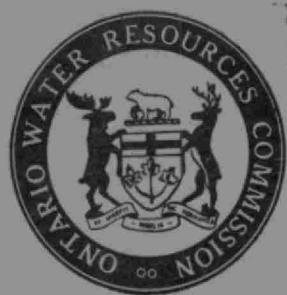
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THE
ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY

of the

TOWNSHIP OF EAST FERRIS

1968

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Report on a water pollution
survey of the township of East
Ferris.

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REPORT

on a

WATER POLLUTION SURVEY

of the

TOWNSHIP OF EAST FERRIS

June 1968

District Engineers Branch

Division of Sanitary Engineering

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R E P O R T

I INTRODUCTION

A brief water pollution survey was made in part of the Township of East Ferris on April 25, 1968. Residents of the area indicated their concern of sewage disposal problems at the Public Hearing for the Township of North Himsworth provincial sewage project. The proximity of the survey area to the proposed Himsworth project was considered. The survey was made to assess the degree of water pollution existing in this portion of the township. Surveys of this nature are also performed routinely by the OWRC, and where pollution sources are noted, recommendations concerning their abatement are made to the parties concerned.

On April 25, 1968, appropriate surface water samples were collected within the area and evident discharges were noted. The appendices to the report include a tabulation of the sample results, an interpretation of the laboratory tests and a map of the area showing the sampling point locations.

II GENERAL

(1) Location

The investigation was confined to that portion of the Township of East Ferris which abutts the eastern boundary of the Callander area. This area is bounded on the north and east by the C.N. tracks, on the south by Concession Road and on the west by Highway 94 and Dyment Road. There are approximately 55 private

residences in this block and there are no commercial premises. The majority of the homes are owner-occupied.

(2) Drainage

The area is drained by street ditches and seasonal watercourses which drain to Callander Bay.

(3) Topography

Bedrock exposure is very extensive. Overburden deposits usually consist of a bouldery silty till and are generally in the order of 5 to 10 feet. In some areas of the Dymont Road - Highway 94 area there are deposits of fine to medium grained sand with some minor lenses of gravel.

III WATER USES

(1) Water Supply

Water is obtained from private wells. The majority of these wells are shallow dug wells. Due to the shallow overburden these wells run dry. Poor construction and/or proximity of wells to sewage disposal systems make it difficult to provide a safe supply. Also, in a ground water survey conducted by the Division of Water Resources of this Commission it was concluded that the bedrock does not appear capable of a substantial yield of ground water.

(2) Recreational

Callander Bay, to which the area drains is used extensively for resort purposes, and boating, swimming, watersports and fishing are major attractions to the area.

IV WATER POLLUTION

(1) Sanitary Waste Disposal

Private sewage disposal is accomplished by septic tanks and tile fields, cess pools and privies. The disposal of sanitary wastes by individual facilities is made difficult by very shallow or non-existent overburden, the proximity of wells and small lot sizes.

The investigation revealed evident discharges of sewage to street ditches. The conditions along Concession Road were of major significance.

V DISCUSSION OF SAMPLE ANALYSES

Samples were collected from local watercourses and street ditches. The results of the laboratory analyses of these samples are recorded in the appended table.

(1) Biological Examination

Since the area drains to Callander Bay the following comment from the 1967 Water Pollution Survey, Township of North Himsworth, is appropriate.

"The above information, together with the information accumulated on Lake Nipissing in the past, indicates that the lake is well advanced in terms of its basic capacity to produce and support aquatic plant and animal life. The degree of productivity will be influenced by the availability of nutrients, such as those contained in sewage effluent."

(2) Bacteriological Examination and Chemical Analyses

The results of the bacteriological examinations of the samples collected from the street ditches on Concession Road showed an excessive coliform count which confirmed the evident sewage discharges.

The chemical analyses also show that domestic wastes from the Concession Road - Highway 94 area, were gaining access to Callander Bay via street ditches and seasonal watercourses.

VI DISCUSSION

A meeting was held with the township clerk and the area public health inspector. Reportedly, this is the major sewage disposal problem in the township. Also, it was felt that problems due to the previous inadequate building control and lack of health unit supervision which resulted in other problem areas, could be solved by approved alterations.

The extension of the proposed services outlined in the Consulting Engineer's Design Report on Water Works and Sewerage Systems for the Callander area of the Township of North Himsforth, would provide a convenient solution to this significant sewage disposal problem. In this regard, the clerk reported that the township council would probably be receptive to any such proposal. However, at the time of the meeting, April 25, 1968, the township had no representation from the affected residents to pursue this extension on their behalf.

It is also significant that the township has recently passed a subdivision by-law. Also, all sewage disposal installations,

including preliminary building lot approval must be inspected by the North Bay and District Health Unit. This added control limits the possibility of similar problem areas developing.

VII COMMUNITY PLANNING

The Township of East Ferris should adopt a comprehensive plan through which council may establish and govern the future development of the township. Such a plan would provide for the passing of by-laws to regulate building and the use of land, and for providing suitable public services such as schools, parks, roads and water and sewage works. Water and sewage services will be required and some idea must be known by council of the means of providing these services.

It is therefore recommended that council prepare and adopt an Official Plan, approved by the Minister of Municipal Affairs.

VIII SUMMARY

A water pollution survey was carried out in a portion of the Township of East Ferris. The survey confirmed that contaminating wastes were being discharged to street ditches and local watercourses which drain to Callander Bay.

Previous studies confirmed that the bay is well advanced in its basic capacity to produce and sustain algae and aquatic and animal life. Continued discharge of contaminating wastes would provide additional nutrient and increased impairment. The remedy of sewage disposal problems in the study area would require a communal sewerage facility. Limited water supply in the area also indicates the

advisability of a communal water works.

The extensions of the proposed services outlined in the Consulting Engineer's Design Report on Water Works and Sewerage Systems for the Callander area of the Township of Himsworth would provide a convenient solution to the problems.

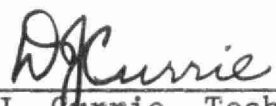
Council does not have an official plan for the township which sets out the policies of council with regard to the future development of the township. An Official Plan would aid in establishing future water and sewage works requirements.

IX RECOMMENDATIONS

1. The Township of East Ferris should investigate the possibility of servicing the survey area by the proposed Callander sewerage and water facilities.

2. The Township of East Ferris should prepare and adopt an Official Plan, approved by the Minister of Municipal Affairs.

Prepared by


D. J. Currie, Technician,
Division of Sanitary Engineering.

/ct

EXPLANATION AND SIGNIFICANCE OF LABORATORY ANALYSES

A Bacteriological Examination

Bacteriological examinations were performed on samples from the watercourses. The Membrane Filter technique was used to obtain a direct enumeration of coliform organisms. These organisms are normal inhabitants of the intestines of man and other warm blooded animals. They are always present in sewage and are generally minimal in other pollutants. The results of the examinations are reported as M.F. Coliform Count per 100 ml.

The Commission's objective for surface waters in Ontario is a coliform count of not greater than 2,400 organisms per 100 ml.

B Chemical Analysis

The chemical analysis performed on stream and outfall samples included determinations for biochemical oxygen demand and suspended solids.

(1) Biochemical Oxygen Demand (BOD)

Biochemical oxygen demand is reported in parts per million (ppm) and is an indication of the amount of oxygen required for stabilization of decomposable organic matter present in sewage, polluted waters or industrial wastes. The completion of the test requires five days, under the controlled incubation temperature of 20°C.

The Commission's water quality objectives are (1) for stream water - 5-Day BOD of not greater than 4 ppm. (ii) for

storm sewer, water pollution control plant and industrial waste discharges - a 5-Day BOD of not greater than 15 ppm.

(2) Solids

The laboratory does tests to determine the total and suspended solids in a sample. The value for dissolved solids is determined by taking the mathematical difference between the total and suspended solids.

The concentration of suspended solids expressed in parts per million (ppm) is generally the most significant of the solids analyses in regard to stream water and outfall discharge qualities.

The OWRC's objective for discharge is a suspended solids of not greater than 15 ppm.

(3) Alkyl Benzene Sulfonate (ABS)

The presence of anionic detergents as ABS is an indication that domestic waste is present.

TABLE I

TOWNSHIP OF EAST FERRIS - PARTIAL WATER POLLUTION SURVEY

<u>Sample Point</u>	<u>Description</u>	<u>Date</u>	<u>Coliforms per 100 ml</u>	<u>5-Day BOD (ppm)</u>	<u>Solids (ppm)</u>		
					<u>Total</u>	<u>Susp.</u>	<u>Diss.</u>
F-1	Street Ditch - Concession Road	Apr. 25/68	12,800,000				
F-2	Street Ditch - Concession Road	Apr. 25/68	2,900,000				
F-3	Seasonal Watercourse - Concession Road Highway 94	Apr. 25/68	13,700	8.8	240	61	179
F-4	Seasonal Watercourse - Highway 94	Apr. 25/68	900	0.8	160	34	126

